

REMARKS

A. Claims 1, 2, 4-11 and 13-15 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Brownawell et al (U.S. Patent No. 5,069,799; hereinafter "Brownawell '799").

I. Claims 1, 2 and 4-6

Brownawell describes filter system for lubricating oil that requires three different types of filter media, i.e., chemically active filter media, physically active filter media and inactive filter media (Abstract). The chemically active filter media is filter media that chemically interacts with the lubricating oil by process such as chemical adsorption and acid/base neutralization. The physically active filter media interacts with the lubricating oil in non-chemical ways such as physical adsorption. The inactive filter media removes particulates (col. 1, lines 55-65). This reference further discloses an embodiment (see Fig. 2) having a supplemental cartridge with a chemically active filter member (i.e., 30) disposed therein. The chemically active filter member includes a plurality of particles (see col. 2, line 6) containing a beneficial additive such as a basic salt of the type recited (see col. 2, lines 12-17). This reference further teaches that the chemically active filter media may include a polymeric binder (see col. 2, line 2). However, nothing in Brownawell teaches or suggests a filter having pellets having a specific size range, and comprising a specific amount of a basic salt and a specific amount of binder.

- a. Brownawell does not disclose Appellants' claimed chemically active filter member and thus fails to disclose all of the required claim limitations.**

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP 214*

Appellants respectfully submit that there is no teaching or suggestion in Brownawell of the specific filter claimed by Appellants' claim 1. Brownawell does not disclose the diameter of the particles in the chemically active filter member, the percentage of polymeric binder present, the percentage of basic salt in these particles, and the specific polymer binder employed (claims 2 and 14). In particular, there is no teaching or suggestion in Brownawell of a filter having pellets having a specific size range, and comprising a specific amount of a basic salt and a specific amount of binder. The specific amount of binder and the specific particle size range required by independent claim 1 allows "hot oil [to] slowly [flow] past the basic conditioner in the chemically active filter, and the basic salt thereof [to act] to counteract and neutralize acidic combustion products." (paragraph 47 of Appellants' Specification.) Thus, Appellants' claimed particle size and binder content is specifically formulated to allow the controlled release of basic conditioner into the oil.

However, the PTO maintains the position that the reference system (Brownawell) appears to release this same basic conditioner into the oil undergoing treatment (Final Office Action, dated September 20, 2006, page 5).

As noted above, Brownawell teaches three separate types of filter media – chemical, physical and inactive. However, Brownawell fails to teach Appellants' chemically active filter member as instantly claimed. In the pending claims, Appellants' chemically active filter member releases beneficial additives – combining the function of both Brownawell's physical filter media and chemical filter media. Thus the pending claims provide a single filter member that is both chemically active and releases beneficial additives – as opposed to the two types of filter media that are required by Brownawell to do these jobs. That is, Appellants' chemically active filter member provides the functions of Brownawell's chemically active filter media as well as Brownawell's physically active filter media.

Thus, Brownawell fails to disclose a single filter member/media that performs both functions and as such Brownawell does not teach each and every element of the claims. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

Further, Appellants respectfully submit that Brownawell '799 does not teach or suggest the chemically active filter having the narrow range of particle diameter, percentage of specific polymeric binder or the claimed basic salt concentration of claim 1.

As discussed in Appellants' Specification, Appellants use a solvent based method for forming particles which allows high concentrations of basic salts and low concentrations of binder (paragraph 53 of Appellants' Specification.)

However, the '799 reference does not use Appellants specific method for producing high salt concentration particles. Therefore, the '799 reference does not teach or suggest particles having the specific amount of basic salt and a specific amount of binder claimed in Appellants' independent claim 1.

The PTO continues to hold that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the recited amount of basic salt in the reference particles, in order to ensure that a sufficient amount of additive is present in these particles to adequately rejuvenate the oil under going treatment."

Further, the PTO states "Appellants should note that the particles in the chemically active filter member of Brownawell '799 must inherently have some percentage of basic salt."

However, as noted above with respect to the PTO's argument of "some diameter", a rational to justify a modification does not take the place of the suggestion in the prior art to make such a modification. There must be a teaching in the *prior art* for the proposed combination or modification to be proper. *In re Newell*, 13 U.S.P.Q.2d 1248 (Fed Cir. 1989), *emphasis added*. Even if the teachings of a primary reference could be modified to arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the *desirability* of such a modification. *In re Laskowski*, 10 U.S.P.Q.2d 1397, 1398 (Fed Cir. 1989).

Appellants respectfully submit that since Brownawell '799 does not teach Appellants' specific low solvent process for producing individual particles having high concentrations of additives, and one of ordinary skill in the art would not recognize the advantage of having high particle concentrations. Most importantly, Brownawell '799 is silent as to any need to have a concentration of basic salt concentration of 80%-97% based on the total pellet weight. Therefore, one of ordinary skill in the art would not read Brownawell to teach the required 80-97 percent concentration.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (C.C.P.A. 1974); MPEP 1243.03.

Appellants respectfully contend that nothing in Brownawell suggests the combination of particles having the specified diameter, polymeric binder content, and basic salt content to provide a single filter member that is both chemically active and releases beneficial additives as claimed.

b. There is no expectation of success for the proposed modification of Brownawell.

Beyond looking to the prior art to determine if it suggests doing what the inventor has done, one must also consider if the art provides the required expectation of succeeding in that endeavor. *See In re Dow Chem. Co.*, 837 F.2d at 473, 5 U.S.P.Q.2d at 1531 ("Both the suggestion and the expectation of success must be founded in the prior art, not in applicant's disclosure."). "Obviousness does not require *absolute* predictability, but a

reasonable expectation of success is necessary." *In re Clinton*, 527 F.2d 1226, 1228, 188 U.S.P.Q. 365, 367 (C.C.P.A. 1976). *In re Dow Chemical Co.*, 837 F.2d at 471, 5 U.S.P.Q.2d at 1530 (emphasis in original).

As admitted by the PTO, Brownawell does not disclose the diameter of the particles, in the chemically active filter, the percentage of polymeric binder, the percentage of basic salt in these particles and the specific polymeric binder employed. Nonetheless, the PTO argues that it would have been "been obvious to one of ordinary skill in the art at the time the invention was made to employ particles having the recited diameter, polymeric binder content, and basic salt content in the reference system, in order to optimize the treatment capability of these particles" (Final Office Action dated September 20, 2006, page 2).

However, the PTO maintains the position that since particles having an average diameter below 0.1 millimeters could cause handling problems in the reference device, because powders are more difficult to handle than are larger granules; and since particles having an average diameter significantly above 5 millimeters could cause problems in the reference device, because interstitial space between these particles could be too great to produce adequate contact between the chemically active media and the oil undergoing treatment; one of ordinary skill in the art would be motivated to select particles having an average diameter in the recited range (Final Office Action dated September 20, 2006, page 5).

The PTO's proposed rationale to justify the many modifications necessary to obtain Applicants' claimed invention does not take the place of a suggestion in the prior art to make such modifications. In evaluating obviousness, the court made it very clear that one must look to see if "the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art." *Id.* at 473, 5 U.S.P.Q.2d at 1531. "Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure." *Id.*

Appellants respectfully contend that nothing in Brownawell suggests the combination of particles having the specified diameter, polymeric binder content, and basic salt content disclosed and claimed in the present disclosure should be carried out

and would have reasonable likelihood of success to provide a single filter member that is both chemically active and releases beneficial additives.

b. 1. Brownawell provides only a motivation to try a modification which is an insufficient basis for a finding of obviousness.

The Federal Circuit has given some examples of what would constitute an "obvious to try" modification based on the prior art. Where the prior art gives no indication of which parameters are critical and no direction as to which of many possible choices is likely to be successful, the fact that the claimed combination falls within the scope of possible combinations taught therein does not render it unpatentably obvious. *In re O'Farrell*, 7 U.S.P.Q. 1673 (Fed. Cir. 1988).

The PTO restates in Final Office Action dated September 20, 2006:

"Applicants should note that the particles in the Brownawell '799 device will inherently have some particle size, some percentage of polymer binder, and some percentage of basic salt." and "since the record does not show that Applicant is able to obtain a new and unexpected result from the recited combination of particle size, polymer binder percentage and basic salt percentage it would have been obvious to one of ordinary skill in the oil treatment art to select the recited values for these parameters in the system of Brownawell '799, in order to obtain results which are commensurate with such selected values."

It is respectfully also submitted that the PTO's suggested motivation for Appellants' required average particle diameters, polymeric binder content, and basic salt content in Appellants' claim 1 is nothing more than an application of the prohibited 'obvious to try' standard. "Obvious to try" is not a valid test of patentability. *In re Mercier*, 185 U.S.P.Q. 774 (C.C.P.A. 1975). Patentability determinations based on that as a test are contrary to statute. *In re Antonie*, 195 U.S.P.Q. 6 (CCPA 1977).

As indicated by the '799 reference, there is a wide universe of particle sizes that could be utilized in an oil filter. It is pure speculation on the PTO's part that one of ordinary skill in the art would find it obvious to try and select Appellants' particular limited average diameter sizes in order to obtain Appellant's required flow paths. The ultimate legal conclusion of obviousness must be based on facts or records, not on the Examiner's unsupported allegation that a particular structural modification is "well known" and thus obvious. *In re Wagner et al.* 152 U.S.P.Q. 552 (C.C.P.A. 1967).

At best, the disclosure of Brownawell is tantamount to an invitation to those skilled in the art to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful.

b.2. Brownawell fails to distinguish result-effective variables and therefore no expectation exists for optimizing parameters.

Where the prior art has not recognized the "result-effective" capability of a particular invention parameter, no expectation would exist that optimizing the parameter would successfully yield the desired improvement. *Antonie, In re*, 559 F.2d 618, 195 U.S.P.Q. 6 (C.C.P.A. 1977). CCPA stated that an evaluation of the obviousness of the invention as a whole requires looking "not only to the subject matter which is literally recited in the claim in question (the ratio value) but also to those properties of the subject matter which are inherent in the subject matter and are disclosed in the specification." *In re Antonie*, 559 F.2d at 619, 195 U.S.P.Q. at 8 (citation omitted).

As stated above, it is the PTO's position that the particles in Brownawell will inherently have some particle size, some percentage of polymeric binder and some percentage of basic salt, but, Appellants contend, nothing in Brownawell suggests or teaches if any of these parameters is result effective to achieve the claimed invention. Without basis in Brownawell, the PTO maintains the position that it is obvious that the "inherent" particle size and composition includes particles as claimed.

Appellants respectfully contend that at the very best, Brownawell can be read only as disclosing generic, inherent properties of a particle, and not those particular properties as determined by the result-effective variables of particle diameter, percentage of polymeric binder, percentage of basic salt and type of polymeric binder of the present application.

c. The Examiner has used hindsight in attempting to argue that Brownawell discloses all of the required claim limitations.

The CAFC has stated “to imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher. *W.L. Gore & Assocs., Inc., v. Garlock*, 220 U.S.P.Q. 303, 312-313. (Fed. Cir. 1983).

The conclusion of obviousness based on Brownawell could not have been made without the hindsight benefit of Appellants’ teachings as to the importance of having flow paths between the particles comprising the basic salt, wherein the flow paths spaces result from the selection of particles having a specified average diameter.

Indeed, the PTO’s statements as to the ‘obviousness’ of Appellants’ required average particle diameter range ignore the express teachings of other Brownawell references. For example, U.S. Patent 5,252,081 to Brownawell teaches that active filter media suitable for use in making a solid hollow composite have sizes in the range of from 0.1 to 3000 *micrometers*. It is noted that the wide ranges of particle size used in the prior art will not create adequate flow paths in that smaller particles will inherently fill the flow path created by the larger particles.

Indeed, those of skill in the art have often focused on providing greater surface area in order to provide greater surface contact. It will be appreciated that decreasing particle size leads to increasing surface area for contact with the incoming oil to be treated. Many of skill in the art would suggest that it would be obvious to select smaller particles to obtain greater surface area. Thus, the PTO’s suggestion ignores the other problems and concerns of those of skill in the art and fails to provide a real motivation to do what Appellants have done.

In the absence of Appellants' teachings, one of skill in the art would have no motivation to select particles having the narrowly selected average diameter of from 0.1 to 3 millimeters.

It is only by using the Appellants' specification as a blueprint to select diameter of the particles in the chemically active filter member, the percentage of polymeric binder present, the percentage of basic salt in these particles, and the specific polymer binder employed can the Examiner achieve the present invention and a finding of obviousness.

As impermissible hindsight is not a basis for an obvious rejection, the claims are non-obvious over Brownawell.

2. Claims 7-9

Independent claim 7 discloses a particular configuration of an oil filter that is nowhere disclosed in Brownawell. For example, claim 7 requires a base plate and a mechanically active filter is "spaced away from said base plate". In contrast, in Brownawell, the inactive filter media 12 is adjacent to the upper surface of the housing 4.

Dependent claims 8-9 incorporate the limitations of independent claim 7 and are thus also patentable over Brownawell.

3. Claims 10-11

Independent claim 10 discloses a supplemental cartridge for use with an oil filter. The inventions of claim 10 and dependent claim 11 are similar to independent claim 1 in that they likewise require the use of a chemically active filter member having a plurality of particles. Claim 10 also requires that the pellets are retained within the cartridge so as to provide an oil flow path through the chemically active filter and past the pellets during operation. The pellets wherein the particles have an average diameter of from 0.1 to 5 millimeters and comprise a polymeric binder, present in a range of 3-20% by weight of the total pellet and a basic salt. As discussed above in A1, Brownawell does not teach Appellants' required average particle diameter.

In addition, independent claim 10, similar to independent claim 7, requires a base plate and a mechanically active filter is "spaced away from said base plate". Brownawell fails to disclose the particular structural aspects of independent claim 10. In contrast, however, Brownawell does not teach or suggest having a base plate and a mechanically active filter that is "spaced away from said base plate". In particular, Brownawell only seems to teach filter elements being disposed adjacent to tapping plates (see, e.g., Figure 2 and column 4, line 50 ... column 6 lines 10) and the inactive filter media 12 is adjacent to the upper surface of the housing 4.

The Examiner has failed to establish a prima facie case of obviousness by failing to demonstrate where the structural limitations of claims 10-11 are taught by the prior art.

4. Claims 13-15

Independent claims 13 and 15 add additional limitations to independent claim 1. These additional limitations are not taught in the prior art.

Specifically, claims 13, 15, and likewise dependent claim 14 teaches the additional limitation of a plurality of pellets being bonded together or cohesively associated with one another to form a substantially integral but porous chemically active filter that is self-supporting. As discussed in Appellants' specification, the pellets 18 may be bonded or otherwise connected together to form an integral, yet perforated and highly porous chemical filter element 16. Where the pellets are joined together in this way, the frame member 17 is not needed, and may be omitted if desired (specification, page 10, lines 15-19). Independent claims 13 and 15 require that the chemically active filter be self-supporting.

As discussed herein, Brownawell fails to disclose the Appellants' required average particle diameter, the percentage of polymeric binder present, the percentage of basic salt in these particles, and the specific polymer binder employed (claims 2 and 14). As such, claims 13-15 are non-obvious over Brownawell.

B. Claim 3 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Brownawell '799, and in further view of Bilski et al (U.S. Patent No. 5,725,031; hereinafter "Bilski").

- a. **Bilski fails to suggest or motivate one to modify the reference and actually teaches away from the present invention.**

A reference that leads one of ordinary skill in the art away from the claimed invention cannot render it unpatentably obvious. *Dow Chem. Co. v. American Cyanamid Co.* 2 U.S.P.Q.2d 1350 (Fed. Cir. 1987).

Bilski discloses a delivery system for PTFE. As noted in col 2, lines 48-61, the PTFE colloidal suspension is displaced by the incoming oil at first engine start up. Bilski teaches that small particle size is crucial to having the PTFE completely displaced by the incoming oil. One of skill in the art would thus expect that small particles sizes would teach away from the retention of particles in a chemically active filter member as is required in Appellants' independent claim 1.

Claim 3 is dependent upon claim 1 and contains all of the limitations of claim 1, including pellets having a diameter in a range of 0.10 to 3 mm.

Therefore, Bilski teaches away from the present invention and claim 3 is non-obvious over Bilski.

- b. **The combination of Brownawell and Bilski does not disclose Appellants' claimed chemically active filter member and thus fails to disclose all of the required claim limitations.**

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (C.C.P.A. 1974); MPEP 1243.03.

Independent claim 1 is nonobvious over Brownawell for reasons stated in section A1 herein incorporated by reference. Claim 3 depends from claim 1 and contains all the limitations of claim 1. It is respectfully submitted that Bilski cannot rectify the above noted deficiencies of Brownawell with regard to claim 1. Because claim 1 is nonobvious over the cited combination, it is submitted that claim 3 is likewise nonobvious over Brownawell in

light of Bilski.

C. Claim 12 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Brownawell '799 and DeJovine, and in further view of Roberts et al (U.S. Patent No. 5,544,699; hereinafter "Roberts").

- a. The combination of Brownawell, DeJovine and Roberts does not disclose Appellants' claimed chemically active filter member and thus fails to disclose all of the required claim limitations, especially the structural limitations of Independent claim 10.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (C.C.P.A. 1974); MPEP 1243.03.

Claim 12 is dependent upon independent claim 10 and incorporates all of the limitations thereof. As discussed above in A1, Brownawell does not teach Appellants' required average particle diameter. In addition, as discussed above in A3, Brownawell fails to disclose the particular structural aspects of independent claim 10. Claim 10 requires a base plate and a mechanically active filter that is "spaced away from said base plate". However, Brownawell does not teach or suggest having a base plate and a mechanically active filter that is "spaced away from said base plate". In particular, Brownawell only seems to teach filter elements being disposed adjacent to tapping plates (see, e.g., Figure 2 and column 4, line 50 -- column 6 lines 10). Further, these structural limitations are absent in DeJovine. The only teaching of DeJovine is of a filter element 4 which does not appear to be spaced away from a tapping plate (See Figures 1 and 2 of DeJovine). As such, the combination of Brownawell and DeJovine fails to disclose the particular structural aspects of independent claim 10.

Roberts discloses a bypass valve for use with a donut oil cooler. Roberts is silent with regard to chemically active filter members, physically active filter media, and average particle size. It is respectfully submitted that Roberts fails to rectify the above noted deficiencies of Brownawell in regard to Appellants' claim 10 (section A3).

Independent claim 1 is nonobvious over Brownawell for the reasons stated in section A herein incorporated by reference in its entirety. Further, the Undersigned is confused as to

how the Examiner is using the DeJovine reference, as the Examiner cites DeJovine but then fails to show how DeJovine is being applied.

Because the references fail to teach all the limitations of claim 12, Appellants must conclude that claim 12 is non-obvious.

REMARKS

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested. In view of the foregoing, Appellants respectfully request removal of the instant rejections.

In the event the Examiner has any queries regarding the submitted arguments, the undersigned respectfully requests the courtesy of a telephone conference to discuss any matters in need of attention. In addition, an interview is respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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